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Original Article.

STERILIZATION AND SUBSEQUENT PROTECTION OF MILK.*

Mr. Chairman and Gentlemen:

I esteem it a pleasure to be permitted to appear before you to-day in behalf of one of, if not the most important, the chief hygienic measures claiming attention at our hands, viz: *Sterilization and subsequent preservation of milk.*

To be able to save our fellow man from suffering, disease and death is, in my judgment, no mean honor; and I am pleased to say that that honor is not limited wholly to the medical profession, nor to the worthy law giver, but that all of us, in whatever station of life, may share in that blessed privilege. And yours, as members of this Milk Exchange, is no exception to that rule or law, by right of inheritance but, on the contrary, you occupy an enviable position, by means of which you may by proper re-

strictions secured through perfect sterilization and subsequent protection from all atmospheric germ pollution of all the milk supplied to your patrons, throw around them and their families the strong arm of protection against the invasion of the ravages of those diseases known and classed as contagious and infectious; and by so doing, thereby place yourselves upon record as pre-eminently worthy of the first and, therefore, the highest honors of extending untold blessings to your fellow man in removing the thorns of disease and death from his pathway.

The advance guards of science have pointed out the stubborn and indisputable fact that each of the so-called contagious and infectious diseases, such as tuberculosis or consumption, typhoid fever, scarlet fever, cholera, erysipelas, la grippe, diphtheria, cholera infantum, and many other diseases coming under the same category, is propagated by a specific germ, which finds its way into the animal economy and there meeting with suitable media or nutrition, or as Prof. Koch has classed it, "a soil adapted to its nature and growth sets up the disease of which it is but the specific

*A paper read by Dr. S. L. West, on April 14th. 1893, before the Milk Exchange, of Philadelphia, Pa.

germ or seed." I ask then, how do these specific germs find their way into the human system? I answer, through foods,—both solids and liquids, milk and water,—and the air.

As this exchange is interested only as purveyors of milk food, I will confine my remarks to that medium. From recent observations it has been demonstrated that milk of tuberculous cows contains the bacilli, or *spores* of the bacillus of tuberculosis. The former, the bacilli when presented in milk may be detected by the aid of the microscope, and nutritive gelatine cultures, but the latter, the spores, can only be determined by inoculation. Hence it is not safe for us to rest our conclusions wholly upon the basis of examination by the microscope. In support of this statement I quote from a paper read by Dr. Leonard Pearson before the Pennsylvania State College, October 1892, in which he says: "The milk of a tuberculous cow sometimes contains large numbers of tubercle bacilli." again, "More frequently in cases of tuberculosis the milk seems to contain no bacilli, but only spores," and again "That milk from tuberculous cows contains the bacilli or spores of the bacillus of tuberculosis does not admit of a question of doubt." According to no less authority than Ballinger, the milk of eleven out of twenty cows suffering of pearl disease was infectious, although the actual bacilli could be discovered in but one sample.

Dr. J. J. Black, before the Third Annual Meeting of the Farmer's Institute of New Castle Co., Delaware, January 18th, 1892, said: "Much of the great mortality among infants the world over is caused by tuberculous milk fed to (bottle-fed) babies," and again, "thousands of infants die from drinking milk from tuberculous cows."

To the scientific inquirer the question that diseases of cattle can be transmitted to people through the ingestion of both meat and milk no longer admits a shadow of doubt. The danger in the case of meat is not so imminent as in that of milk, for the meat is always more or less cooked, while milk is usually consumed in the raw state.

When the udder contains tubercles the milk can scarcely be free from the

bacilli, but it has been shown by Bang, Zschokke, Ballinger, and others that in cases in which the udder is healthy, but the animal tuberculous, the milk may nevertheless be infectious. Ballinger says "that the milk is infectious in twenty-five per cent. of cows suffering of pearl disease." Drs. Ernst and Peters, of Boston, support this statement.

Dr. E. P. Christian of Wyandotte, Mich. in *Physician and Surgeon* 1892 reports an epidemic of typhoid fever, from the use of one cow's milk, which had no access to pure water but drank from a nearly dried up swamp. This milk was forbidden to be used, when the epidemic ceased, and no new cases occurred from that date.

Dr. Ernest Hart, editor of the Journal of the British Medical Association has given a tabulated account of ninety-one recent epidemics due to infected milk, that has been recognized and made the subject of detailed observations in *Great Britain*.

These were more especially epidemics of typhoid fever, scarlet fever, diphtheria and erysipelas. "This catalogue" says the editor, "by no means embraces all of the indictments which may be charged against the cow, as we might fairly include in it tuberculosis, vaccina, apthous sore mouth, gastro-intestinal catarrh, cutaneous eruptions in childhood, ephemeral fever and some intestinal *parasites*."

Dr. Henry E. Armstrong, Medical Officer of Health, New Castle-on-Tyne, Scotland, says, "Many epidemics, arising from milk, have been recorded, of which the following are only a few examples: Scarlet-fever, Wimbledon, 1887, embracing 592 cases in two weeks. A small outbreak of scarlet fever in New Castle-on-Tyne affecting twelve of a total of twenty-eight families supplied with the same milk. Two outbreaks in the same city, in 1888; of these, one epidemic consisted of 117 cases during a period of eleven days in fifteen households all supplied by the same dairy-men: the other epidemic embracing 116 cases of scarlet fever-sore-throat during a period of six days in 63 households all supplied by the same dairy-man."

The spread of diphtheria by means of milk was first reported in 1878 by Dr. Power, Medical Inspector of Local Government Board of London. This out-

break was confined to the North of London and caused 230 cases and thirty deaths in 98 households all supplied with the same milk. Subsequent outbreaks of diphtheria have been reported on by Medical Inspectors of the Board in 1882, 1883 and 1886.

Again, Dr. Henry E. Armstrong, Medical Health Officer of New Castle-on-Tyne, Scotland, in *London Transactions* of 1892, says, "milk may itself be diseased as the product of a diseased animal, as shown in the Wyandotte epidemic reported by Dr. Christian."

"As is well-known, foot and mouth disease is transmissible from quadrupeds to man in this way. During recent years several outbreaks of human scarlet fever and diphtheria have been undoubtedly due to milk supply, the infection of which after leaving the cow, has not been traced even on very careful inquiry. In some of the dairy farms supplying the milk in question, cows have been found ill—their most noteworthy symptoms being febrile disturbance, vesicular eruption on the udder, scabbed teats, and loss of hair in patches. Drs. Power and Klein of the Government Board of Great Britain, report that these symptoms indicate the disease or diseases of the cows communicable as scarlet fever and diphtheria respectively to the consumer of the milk."

Dr. Armstrong concludes by saying, "whether or not the communicability of the foregoing diseases from the cow to man be a question, there is none whatever with regard to the malady yet to be considered, which causes one-seventh of the general mortality of Great Britain, viz, tuberculosis. This name includes the well-known local terms "clire," "pining," "grape disease," "consumption of the bowels," "mesenteric disease," "tuberculous peritonitis," "tuberculous pleurisy," etc."

The extent of tuberculosis in cattle is variously stated, but all authorities agree as to its great prevalence.

Prof. McFadgcan, in a paper on tuberculosis, in the domestic animal, published in the *Transactions of the National Veterinary Association*, 1891, says: "It is an extremely common disease. When only adult animals are taken into account, and all grades of the disease are

reckoned, it is not an extravagant estimate to set down the proportion at five per cent., and in milch cows kept in the cities, the proportion is probably four times that, or twenty per cent."

In the publications presented by the Danish Government to the International Congress of Hygiene and Demography last summer, occurs the following passage: "Milk is a more frequent source of tuberculous infection than meat"

Now, having concluded my remarks on infection, I wish to refer briefly to

SALICYLIC ACID AS A FOOD PRESERVATIVE.

Wernitz, of France, studied the action of salicylic acid, (so extensively used by purveyors of milk to arrest or prevent decomposition and putrefaction), on digestive ferments. He found that one part of the acid to 7600 of milk, arrested the action emulsion; one in 5100 arrested diastase; one in 1250 ptyalin; one in 9000 pancreatin; one in 250 pepsin; and one in 333, rennet. The proof of these facts induced the French Government to interdict the use of salicylic acid, even in very small quantities.

In Massachusetts the use of salicylic acid as a food preservative is forbidden absolutely in any quantity, great or small and severe penalties are placed on dealers who keep salicylated articles in stock. Milan, Buenos Ayres, Berlin, Holland, Italy, Spain, Austria and Germany have forbidden the use of salicylic acid in milk or food products.

Now Mr. Chairman:—Admitting then these, what are to me incontrovertible scientific facts. How can milk be rendered innocuous to the human system, and still retain all of its nutritious properties? I answer, by proper sterilization and subsequent protection from all atmospheric or organic life or disease germ pollution. The largely increasing annual mortality list of these contagious and infectious diseases all of which are preventable, justly demands that these safe-guards shall be instituted.

The method of sterilization of milk as well as that of water, is worthy of the most profound attention. Milk sterilized in open vessels, or vessels not steam tight and under pressure, undergoes certain molecular and chemical changes, which

render it very difficult of digestion, if not less nutritious. The principal changes thus produced are rupture of the cream globule, thereby reducing the specific gravity of the cream to that of the milk and coagulation of the albuminoids and casein.

But milk sterilized in a vessel steam tight and under 25 to 30 pounds hydraulic pressure, does not undergo these physical changes to any appreciable degree. In other words, its component parts are not very materially changed—the cream globule is not broken and the albuminoids and casein are not coagulated or hardened—thus you have the milk as easily digested and as nutritious after, as before sterilization.

Again, the sterilization of milk is very unlike that of water. While from 200 to 212 degrees may destroy the pathogenic or disease germs in both water and milk, it must be remembered that it requires a much higher degree of heat to destroy the germs of decomposition and putrefaction incident to milk—hence in order to sterilize and effectively preserve milk, it must be raised to a temperature sufficiently high to not only destroy the pathogenic germs, but at the same time, those productive of decomposition and putrefaction, and in this state of purity, placed in bottles, cans or jars, of sufficient capacity to meet the demands of the consumer.

This, though the last step in the sterilization and preservation of milk, is by no means of the least scientific and mechanical attainment. The bottle, like that of the milk must first be sterilized, then the milk transferred therein wholly free from all atmospheric contamination and hermetically sealed or stoppered.

Now gentlemen with these facts before you, I must leave the matter with you. I wish only to add in conclusion that as I believe this Milk Exchange is composed of some of the most philanthropic gentlemen in the City of Philadelphia or the State of Pennsylvania, (and I am told that it is), I feel quite sure no time will be lost in your adopting the best known method of perfectly sterilizing and preserving your milk before delivering it to your patrons.

By this means you not only remove the possibility of conveying the germs of

the various infectious and contagious diseases to which I have above referred; but you, at the same time, prevent the unscrupulous retail milk dealers from diluting and polluting the milk with water, and the injurious effects upon the organs of digestion by the presence of salicylic acid, in some of its chemical combinations, used to prevent souring and decomposition.

SLOW PULSE.

The causes which produce slow pulse may be classified as follows:—

1. Diseases or injuries to the nerve centres, producing either irritation of the pneumogastric or paralysis of the sympathetic (accelerator) nerves of the heart.
2. Diseases or injury of the pneumogastric nerve, increasing its irritability.
3. Disease or injury of the sympathetic nerves of the heart, paralyzing them.
4. Disease of the cardiac ganglia, by which the influence of the pneumogastric nerve preponderates.
5. Disease of the heart muscle (degeneration), whereby it fails to respond to the normal stimulus.
6. The action of poisons, as lead or tobacco, either on nerve endings or centres. The poison generated in salt fish. Also the poison of certain febrile diseases, algid pernicious fever. Another possibility is malaria poisoning.—Dr. D. W. Prentiss, in *St. Louis Med. and Surg. Jour.*

SWALLOWING A THERMOMETER.

M. Toubin communicated a curious case of a man swallowing a thermometer. A prisoner attempted suicide by swallowing the handle of an iron spoon. Nothing was done for him, as he did not seem to be much affected by the foreign body, save the administration of a good deal of soft food. His case, however, was closely watched and the temperature taken daily. About ten days after his first exploit the fellow swallowed the thermometer. Nine days subsequently he expelled *via naturales* both the spoon-handle and the thermometer.—*The Medical Press.*

The Times and Register.

A Weekly Journal of Medicine and Surgery.

WILLIAM F. WAUGH, A. M., M. D.,

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THE STERILIZATION OF MILK.

AT the present day, from the experiments of many observers, when sterilized milk, which has been subjected to 212 F. (100°C), has been given to infants they have not thrived. The milk thus treated seems to have been devitalized, as it were, and, while we have obtained immunity from pathogenic germs by such a process of sterilization, on the whole we have not seemed by the old process to have reached the goal anticipated in the feeding of infants.

Last June, Dr. R. G. Freeman published in the *New York Medical Record* an article on the "Pasteurization of Milk" or the sterilization of milk at 167 °F. (75°C) followed by rapid cooling. In this article he comes to similar conclusions as other observers, notably, Dr. Rotch, of Boston, and Dr. Koplik of New York.

In this method of treating milk by a

lower temperature, followed by rapid cooling, one finds the children thrive much better on sterilized milk, while the deleterious influence of any bacteria which may have been contained in it has been rendered *nil*.

Germes of tuberculosis are destroyed at a temperature of 167°F continued for fifteen or twenty minutes, as well as the germs of the infectious diseases, including cholera. Moreover, there is less tendency to the formation of large curds in the infant's stomach when the cow's milk has been subjected to the lower temperature rather than the higher.

The value of the Pasteurization of milk in milk laboratories as suggested and practised by Dr. T. M. Rotch of Boston, and exhibited by him in the Harvard College exhibit of the Worlds Fair, at Chicago, is inestimable. His plan is to provide milk sterilized and treated according to the specific prescription of the attending family physician. This can be done in any large city, and bottles of sterilized milk thus treated can be expressed over the immediate country with almost warranted success in its effects.

We agree in every particular that relates to the supervision of milk delivered in large cities by the appointing of milk inspectors. There is not enough care taken in the delivery of milk, especially to the poorer classes. The standard in quality should be kept at a high rank and the prevention of milk being sold from tuberculous cows maintained, all of which requires an efficient officer whose duty is to the public health rather than of political character.

It is a common idea among the laity that a persistent pain in the small of the back means kidney trouble. As a matter of fact, acute nephritis from cold is the only kidney disease that announces itself to the patient by pain.—Baumgarten, *Atlanta Med. and Surg. Journal*.

Annotations.

SHOULD INEBRIATES SUFFER THE DEATH PENALTY FOR CRIME COMMITTED WHILE INTOXICATED.

IN a paper before the Section on Medical Jurisprudence of the Pan-American Medical Congress in Washington, Sept. 5-8, Dr. T. D. Crothers, of Hartford, Conn. gives the following reasons why criminals should not suffer the death penalty for crimes committed while intoxicated.

"From a scientific study of these cases it is clearly apparent that they are diseased and incapacitated to act sanely. Alcohol has palsied the brain and made them madmen.

"The very fact of the continuous use of alcohol is evidence of mental impairment and unreasoning act and thought.

"The death-penalty is followed by an increase rather than a diminution of crime.

"The object of the State, through the law, is to protect society and the individual: but if the execution of the law-breaker fails to accomplish this end, the laws are wrong.

"The inebriate should never be hung for crime committed while under the influence of alcohol, but should be confined for life in a military workhouse hospital under the care of others, as one incapacitated to enjoy liberty, and incompetent to direct his thoughts or acts."

RESUSCITATION BY ANAL DILATATION.

DR. J. C. GROSVENOR of Chicago, in the *Journal of Orificial Surgery*, August, 1893, gives an unique as well as amusing account of three cases of resuscitation by means of forcible dilatation of the anal orifice. The first case was a man dying from an over dose of morphine. The second was the arousing of an infant born asphyxiated, while the third case was that of infantile eclampsia. His *modus operandi* is to grease the thumbs of either hand and proceed to dilate the sphincter. He thinks this process acts as a direct stimulant through the sympathetic and believes it might

be successfully applied in resuscitating the drowned where the spark of life is not quite extinct.

TREATMENT OF RINGWORM OF THE SCALP.

DR. LESLIE ROBERTS in the *British Medical Journal*, page 472, lays down the following rules for observation in the treatment of ringworm of the scalp.

1. Whenever practical shave the entire scalp. This in itself constitutes rather a treatment than a preparation for it. Every hair in the head is a means of retaining moisture and heat which favors the development of ringworm as a poultice would a boil.

2. Disinfect the whole surface of the scalp. It is not necessary to only treat the ringworm patch, the whole surface must be thoroughly disinfected. For this he recommends spraying the scalp morning and night with rectified spirits containing a few grains of salicylic acid and a little glycerine.

3. Stimulate the follicles containing the diseased hairs. At this point in the treatment the mechanical barrier to the penetration of remedies existed in the horny layer of epidermis. He was not convinced that any remedy penetrated far into the depths of the follicles. A very mild antiseptic would kill the germs so far as it reached them but it was doubtful if they reached far enough.

4. Selection of remedies. The choice of a remedy should not be confined to the germicides but such agent should be selected as had influence on cell life, iodine, carbolic acid, ammonia, ether, chloroform, acetic acid, cantharides and capsicum were all of use.

QUININE AS AN APPLICATION TO WOUNDS.

Dr. Alföldi is convinced that a 1 per cent. solution of quinine sulphate is a more rapid detergent and cicatrizing in cases of infected wounds than either corrosive sublimate or iodoform. He adds that wounds that are free from infection also heal with astonishing rapidity under the use of quinine applications.

—*Cincinnati Lancet-Clinic.*

Book Notes.

HERNIA: ITS PALLIATIVE AND RADICAL TREATMENT IN ADULTS, CHILDREN AND INFANTS. Illustrated. By Thomas H. Manley, A.M., M.D., New York City, N. Y. Published by the Medical Press Co., Limited, 1725 Arch Street, Philadelphia, Pa. Price \$2.00.

This is a time when the study of hernia has been notably revived, and, consequent upon the multitudinous investigators, there has been more or less confusion as to the best modes of procedure. Among these conflicting opinions the general practitioner is at loss to know what to do in any given case, so much so, that, whereas he would have formerly depended upon his own resources in the absence of the opinion of the specialist, now he feels that the specialist must be consulted in almost every case of hernia he may meet. Right in the midst of all this diversity of opinion comes this little book from so eminent an authority on hernia as Dr. Manley. It is as refreshing as the sunlight after a storm. Treating as he does, the subject from earliest infancy to old age, in every peculiar method in vogue at the present day of any therapeutic or practical value, not by lengthy dissertations on the subject, but in a bright, concise style, he has done much to clear up the chaotic state of the literature on hernia, and restore the confidence of the general practitioner in the palliative, as well as the radical treatment of this affection. Therefore we feel that we can unhesitatingly recommend this work to the medical profession as one through which the library of the average physician will be notably augmented as well as his store of knowledge of the subject of hernia increased. The work is illustrated by some sixty-five cuts, all of them new, and consequently at considerable outlay of cost to the author. The aim of the author has been to endeavor to give each source of therapeutic information its due merit and strive to indicate the precise limitation of each. In this he has succeeded remarkably well. After a short chapter on "General Consideration" Dr. Manley plunges at once into the subject of congenital hernia, following with infantile hygiene and its relations to hernia and the treatment of that variety of the affec-

tion in an admirable manner. Part 2 undertakes the management of hernia in the adult relative to the employment of palliative treatment only, while part 3 deals with the radical cure of reducible and irreducible hernia by direct surgical intervention, and part 4 the modern operations for non-strangulated hernia, reducible and irreducible.

We certainly trust that Dr. Manley will receive the success he deserves in this undertaking and that every physician will show his appreciation of a good thing by having one of these books on his table.

OUTLINES OF PRACTICAL HYGIENE, ADAPTED TO AMERICAN CONDITIONS. By C. Gillman Currier, M. D., New York, N. Y. Published by E. B. Treat, 5 Cooper Union, N. Y.

This is a concise work admirably adapted for what the author intended it to serve, viz, a text-book of modern hygiene. However, it fails of being complete, as we observe no chapter on infant hygiene, or any mention of the subject beyond a short article on "infant feeding." The author has evidently overlooked the hygienic care and management of early infancy, which is, perhaps, quite as important, at the present day, for observation in a text book, as any other subject on hygiene.

The subjects the author has considered are well written, and the style is admirable. Were some portions of the work omitted, so as to render it practical to place before young students of both sexes, it would make a good text-book to be recommended in our public schools. A school edition of the work would not be out of place. The work deals with climate, clothing, physical care and exercise, schools, occupation, lighting, heating, ventilation, foods, water supplies, drainage, disinfection, disposal of garbage, infectious diseases, and other points of value in hygiene.

NOTE.—Dr. Waugh's new book is entitled: *Manual of Treatment with Active Principles and New Remedies*. It will contain over 200 pages, 12 mo. bound in cloth. It is now in press, and is promised for delivery on October 1. Orders received previously will be placed on file and the book sent out as soon it is received. Price, \$1.00 post-paid.

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HEDGESVILLE, W. VA.

IMPOTENCE.

IN my TIMES AND REGISTER of Sept. 2d. I see an inquiry, for aid in treating impotency, and your reply. What I wish to know is—what vein do you advise tying? and what are the special indications that would lead to that conclusion? I find that impotency of any age is a condition that is almost impossible to cure. Gross, on diseases of the male sexual organs, gives many clinical cases, and implies that atonic impotence, with desire, and with feeble erections is curable and gives cases with treatment. I have tried the treatment in very many cases, and generally with but little if any success. The free doses of bromide of potash that he advises blunt the venereal desire and in my hands really makes bad worse. The steel sound, with such remedies as we would use in acute or chronic urethritis, does more for me than all else. Yet I have now several cases where there is no tenderness of the canal, no strictures, no pathological condition observable, and yet, the impotence continues. What shall I do with such cases, such conditions?

Respectfully,

R. G. A.

[In the case mentioned, there was a very large vein running along the side of the organ, which seemed to be out of the grasp of the constrictor, and to empty the sinuses as fast as they were filled. This vein I compressed by a pad and rubber band, and found the erection much more powerful, in fact, quite normal; so I tied the vein. It would not be of any use if the large vein were fully controlled by the constrictor, or in the impotence due to old age, exhausted vitality or deficient secretion

—W. F. W.]

AMICK'S ALLEGED CONSUMPTION CURE.

WHAT is your opinion of Amick's chemical treatment for consumption?

I see it advertised in *The Medical World*
J. J. WILSON, M. D.

LITTLETON, COL.

[I think Amick simply adopted Shade's calomel treatment, which has been fully described in our columns. Shade came out like an honest professional gentleman, and gave his brethren the benefit of his discovery, as he deems it. Amick took up the idea, and operated it on a basis of quackery, for which he deservedly expelled from his college and societies.

—W. F. W.]

DEATH FROM SALOL.

At a meeting of the Biological Society of Paris, held the 27th May, M. Girode exhibited two lumps of salol weighing 1.55 grammes and 1.25 grammes, which had remained undissolved in the stomach of a woman for twelve months.

The woman died on the 20th April in the Beaujon Hospital, and when the autopsy was being made the injected condition of the great curvature of the stomach attracted attention, and when the viscus was opened the two masses of salol were found (*L'Union Medicale*, No. 64).

SPASM OF THE GLOTTIS.

Sir Morell Mackenzie, an acknowledged authority on laryngeal cancer, recently imparted to his brethren of the "Laryngological and Rhinological Association" an item of practical information regarding the successful treatment of that alarming and dangerous condition, spasm of the glottis, which is sometimes difficult and uncertain; but Sir Morell tells us that by setting up a rival reflex, the laryngeal spasm, itself a reflex usually due to peripheral irritation, may be overcome instantaneously. All one has to do is to get the sufferer to take a pinch or snuff or pepper or, failing either condition, to excite sneezing by tickling the mucus membrane of the nares. The immediate result is a paroxysm of sneezing after which the patient sinks quickly back to sleep, breathing like a new born infant. The treatment is logical as well as practical, and is well worth a trial.

—*Hosp. Gazette.*

French Notes.

By E. W. BING, CHESTER, PA.

FOREIGN BODY IN THE STOMACH SIMULATING CANCER OF THE ORGAN.

Mr. Fevrier presented to the medical society of Lyons, the stomach of a patient, who complained, of oppression, anasæra and general debility. The action of the heart was irregular there was bronchitis, and emphysema, the urine was free from albumen. The condition was difficult of explanation, when there occurred hæmatemesis, this led to questions as to his previous gastric condition, and the patient admitted having previous attacks of hæmorrhage; and that in the evening he usually vomited his food. On exploration, the stomach was found to be dilated. In the epigastrium, a deep difficult tumor was felt, and the diagnosis of gastric cancer was made. The patient did not show the characteristic tint of the skin. Constipation persisted even after a dose of six drops of croton oil, he had again "coffee ground" vomiting; he no longer took food. Lavage was practised, with some slight improvement; but the patient soon died from advanced cachexia. The autopsy showed no cancer, the stomach contained however a considerable mass of prune and cherry stones, and raisin seeds, agglutinated together, forming a tumor, difficult to break up. The symptoms were due to the obstruction caused by this mass at the pyloric orifice.

—*L' Union Medicale.*

SOME NEW TESTS FOR ALBUMEN IN URINE.

1. Sublimate and acetic acid. If to urine containing albumen a few drops of a solution of sublimate one per cent. are added, a distinct cloud is obtained; whilst in normal urine this does not occur, or only in exceptional cases, when there is a very slight, hardly visible, clouding. If to the above a few drops of acetic acid are added, the cloud if not due to albumen disappears, when albumen is present the opalescence remains, even on the addition of acetic acid. A mixture of one part of acetic acid, and six parts of the sublimate

solution only produces a cloud, when albumen is present, appearing immediately on adding the reagent, and does not give a deposit, whilst sublimate alone does so. Peptone gives no reaction, with the test in above proportions uric acid behaves in the same manner, also solution of una-phosphates or sugar, a concentrated urine also is not clouded by the test.

2. Sulphocyanide of potassium and acetic acid at ordinary temperatures. For this test, 100 cc. of a ten per cent. solution of sulphocyanide of potassium are mixed with 20 cc. of acetic acid, a few drops are added to the urine to be examined. If albumen is present in small quantities a distinct cloud immediately occurs. If albumen is plentiful a thick white deposit is obtained. Excess of liquid makes no difference to the result. All normal urines give a negative result with the reagent. By successive dilutions this test appears to be more sensitive than the ferrocyanide of potassium and acetic acid. It has also the advantage of being colorless, and remains clear even after a lapse of time. These results are only obtained by following the above procedure closely.

3. If to urine, containing sulphocyanide of potassium, a small quantity succinic acid is added when albumen is present a clouding is seen, but not otherwise.

This reaction presents the advantage, of being easy to carry, since both bodies are solids. Equal, small quantities of each are mixed and added to the urine, and the reaction occurs at once if there is albumen. If the chemicals are mixed and enclosed in gelatine capsules they are easily carried and available at any moment, and perfectly reliable if kept free from moisture.

—Dr. Zouchtos, *Le Progres Medicale.*

STUDY OF THE MICROBIC ORIGIN OF PURULENT SURGICAL INFECTION. (ARLOING AND CHAUTRE.)

It is natural to attribute purulent infection (surgical) to the dissemination, in the organism of the customary microbic producers of suppuration; but all are not agreed on this point. By reason of the chemical characters which

often distinguish a simple suppuration, from one complicated with infection, some think, that the pathogenic agent of this affection is not an ordinary pyogenic microbe. The term septic pyemia, employed by many surgeons, to designate purulent infection, allows it to be supposed that it does not relate to a pyogenic agent exclusively, but to combined action of pyogenic and septic microbes. M. Pasteur after having made known his *diplococcus pyogenus* of common water, put forth the idea that the mixture of the micrococcus with the septic vibrio, would produce a septicæmic purulent infection, or a purulent septicæmia; the last acting as a propagator of the first. The microscope has frequently shown in pyemic lesions in man both the micrococci and bacilli; but observers have differed as to which played the principal part. Birch-Hirschfeld considers the micrococci more dangerous than the others; on the other hand, Rouke and Cheyne, accord the active role to the bacilli. The observations of Heibeig, Conuil, Baumgarten, Babe's, without excluding the possible existence of septic pyemia, where the septicæmia presents itself as a complication of pyemia, establish the fact, that the intervention of a septic bacillus is not indispensable to the production of purulent infection; still we may wait for further proof. It remains to be known why ordinary pyogenic agents, whose effects are usually local, can produce such a formidable progeny. In 1875 Chauveau showed that ordinary pus, even if putrid, cannot cause metastatic effects. The research of Chauveau shows that ordinary pus, or as we should call it today, the pyogenic agent, must undergo a modification in order to become infecting, and produce metastatic lesions. What is this modification? the object of this paper is to state the result of our researches on the subject.

The combination of a septic microbe with pyogenic agents is not necessary to the genesis of purulent infection. We shall not specially notice the vibrio septic, whose intervention has been pointed out. Pus of good quality, and pure culture of the *staphylococcus pyogenis* have been inoculated in the rabbit, into the blood, hypodermically, isolated, or

mixed with the septic vibrio, without being followed by metastatic foci. One of us, in 1881 studied the lesions of infection, in a case at the Lyons hospital, the purulent sirosity of the pulmonary lesions contained isolated micrococci and more or less elongated bacilli. Inoculated under the skin of a rabbit, and of a guinea pig, the former alone died from a purulent mass rich in micrococci and bacilli,—(at the point of inoculation) and a peritoneal effusion containing streptococci exclusively. The great sensitiveness of the guinea-pig to septicæmia being well known, it could be affirmed that the bacillus present in the purulent foci of the patient was not the vibrio septic.

Again in a case of natural purulent infection developed in a horse, we only found the streptococcus (1st) in the midst of the primary focus adopted in the vicinity of a wound. (2nd) in the purulent fluid of the great cavities (3) in the secondary abscesses of the lymphatic ganglions at the entrance to the chest. Cultures from the blood, pus, etc., confirmed the microscopic examinations.

Pyogenic microbes must take on a particular virulence, to produce surgical purulent infection. In the cases examined by us, the pyogenic agent was the streptococcus. With the pus of the horse, not containing any other microbes, we have produced on the dog mortal subcutaneous abscess, and by intravenous injections, multiple suppurating arthritis. We know that in such a case, it is useless to attach any importance to the abundance of streptococci, in the primary focus; since minute quantities often succeed in infecting. We are obliged to consider that the microbe has undergone some modification before or after its arrival in the tissues. To appreciate this we have drawn a comparison from researches made by Chauveau on puerperal septicæmia. These have shown that all forms of puerperal infection are due to the streptococcus pyogenes acting sometimes with one degree of virulence, sometimes with another, and on the rabbit and guinea-pig determining the character of the infection according to activity of the streptococcus. For by inoculating on the peritoneum of the rab-

bit, pus from the horse, or cultures from this pus we have produced a fatal disease (foudroyant) and lesions similar to those which the puerperal streptococcus produces, when it attacks with malignancy, the woman. In short, just as the puerperal streptococcus is much less dangerous for the guinea-pig, than for the rabbit, and loses its primary malignancy by age, so, the same results occur in the case of the streptococcus of purulent infection. Conclusions:—

1. Purulent surgical infection has for its essentials the ordinary microbes of suppuration. (Streptococcus in above instance.)

2. If other microbes consist with these, they are accidental and complicating, but not essential.

3. To produce infection, the microbe must take on the special virulence, which it possesses in acute forms of puerperal septicemia and not those which it shows in ordinary abscess or erysipelas.

4. The modification which produces these various conditions is unknown.

—*La France Medicale.*

A DOCTORLESS COMMUNITY.

Under this title a correspondent to the *British Medical Journal*, Sept. 2d., 1893, describes a place called Fair Isle of about 300 inhabitants, where no physician resides for the sole reason that the small income a practitioner would receive there would not adequately support him. The unfortunate sick on the island must needs depend on the fortnightly visits of the mail boat, a cutter, whose punctuality cannot be relied upon.

Here is an opportunity for our Dublin friend, who not finding a location in all America strayed into our editorial office a few weeks since to beg his way back to "the old country."

BROMIDE eruptions and the tendency to digestive disturbances where large doses must be given, are counteracted by Fèrè, who gives a drachm of beta naphthol and half a drachm of salicylate of bismuth, daily, and finds that this can be administered for months together without injury.

—*Cincinnati Lancet-Clinic.*

The Medical Digest.

TREATMENT OF DIPHTHERIA.

Levy and Knopf (*Berl. klin. Woch.*, August 7th, 1893) describe the treatment of this disease with papayotin (Gehe) and carbolic acid. They prepared the diphtheria poison after the method of Behring and Wernicke. When some papayotin was added to this diphtheria poison, and the mixture kept at 37° for two days, the virulence was much diminished. Thus papayotin has a weakening effect on the diphtheria poison. If papayotin were allowed to remain in contact with the living bacilli without carbolic acid, the whole rapidly underwent putrefactive changes. In the treatment of cases the following preparation was used: Papayotin, 10.0; ac. carbol. puriss. liquefact. 5.0; aq. destil. ad 100.0. The affected parts were gently painted every ten minutes for the first two hours, and then at intervals of every two hours afterwards, and this was continued during the night. There was rapid improvement in the local manifestations. The ice collar, abundant inhalations, and plenty of wine were used as usual. The cases of diphtheria when admitted are nearly always severe, the mild ones being kept at home. Encouraged by the good results, the authors sometimes delayed tracheotomy a little, and with satisfactory results. Of fifty-one cases thus treated thirty-six recovered, tracheotomy being performed once, and fifteen died, of whom five were tracheotomised.

—*British Med. Journal*, No. 1705.

TREATMENT OF DIPHTHERIA.

As soon as the patient is seen do not delay for the action of a cathartic but begin to combat the poison at once by the administration of two tablepoonsful every hour for adults and proportionally less for children according to age of the following preparation:

R Potassium chlorate, 3j
Dilute muriatic acid, 3ij
Tincture muriate iron, 3ij
Water 3ij

M. Sig. Diminishing to one or two doses at night with tonic doses of quinine thrice daily. The above compound has a slightly acid taste and is not

objected to by children. Immediately after its administration, proceed to mop the throat, depressing the tongue, with a mixture of :

R Fluid extract pinus, : ʒj
Phenic acid,gtt. x or xv

M.

The mopping is repeated after each dose of the solution. The mop is made of a small twig the size of a goose quill eight inches long with a little lint bound to the end, we give this instead of a more artistic implement because so easily obtained. The mopping should be done carefully so as not to wound the tender mucus membrane. Petroleum applied externally to the throat is advisable.

Under this treatment improvement begins at once, the fibrous matter ceases to accumulate. That which has already appeared turns black, being stained by the red Pinus, contracts around the edges and in a few days drops off and the amelioration of all the systemic symptoms becomes obvious.

—Dr. Pattison in *Med. Review*, Sep. 9th.

INTRAUTERINE VACCINATION AND VARIOLISATION.

Hervieux (*Sem. Med.*, July 19th, 1893) uses these terms to signify the immunity to vaccinia and small-pox conferred on the fetus when the mother is successfully vaccinated or is attacked by small-pox during pregnancy. He has collected 152 cases where intra-uterine vaccination has occurred, thirty-two being recent, and reported by Dr. Lop, of Marseilles. In all these the child was vaccinated soon after birth. In 106 of the children the vaccination was successful; in forty-six it failed. Hence the children were not as a rule rendered proof against vaccinia by the so-called intrauterine vaccination. Evidence on intrauterine variolisation is scanty, but a few reported cases appear to show that it confers on the child immunity against small-pox. The question as to whether the bacteria of vaccinia and variola can pass from the maternal into the fetal vessels seems settled, Hervieux believes, by M. Malvoz's researches, which prove that the invasion of the fetal organism by germs depends on the intensity of the morbid condition. This may explain the uncertainty of immunity after birth, as shown in the 152 cases.

A MEANS OF RELIEF IN HAY FEVER.

The capriciousness of hay fever and the occasional relief obtained from an entirely empirical method of treatment warrant the publication of any means which has proved successful, in the hope that it may be of use to some other person afflicted with this annoying and disabling disease.

Ferber, of Hamburg,¹ reports his own case which had been so severe as to necessitate his using a closed carriage all through the summer. His relief was brought about from accidentally noticing that in the winter a coryza was usually accompanied with hot ears which regained their normal temperature when the discharge from the nose was established. He determined to try a reversed order of effect on the hay fever in the summer, and began according to rub his ears until they became red and hot.

It is now the third year that he has been able to lead an endurable existence during the hay fever season. "As soon as the least sensation of fullness in the nose appears, there is recognized a certain amount of pallor in the ears. A thorough rubbing of the ears, at times even to contusion, has always succeeded in freeing the nasal mucous membrane from its congestion. The rubbing, however, must be *thorough* and repeated as often as the least symptom of congestion returns to the nose. Since using this means I have been able to take long sandy walks, sit and even sleep with open windows or pass an evening in my garden without distress. Several patients have had the same relief from this treatment, always in proportion to the thoroughness of the rubbing, and I hope by this means some other physician may be able to give his patients the same great relief."

—*Boston Med. & Surg. Journal*.

MEMBRANOUS DYSMENORRHEA.

Dr. Lohlien (*Gyn. Tagesfragen*, Heft II., 1891) reviews the subject at length and confesses to changes of opinion on several points. The name is a misnomer, as membranes may be passed at the

¹Deutsche Med. Zeitung, No. 65, 1893.

menstrual period without pain, hence the French *dysmenorrhée membraneuse sans dysmenorrhée*. He recognizes different degrees of the affection, and would designate the severer forms as "exfoliative endometritis." It has not as yet been definitely ascertained why this affection should occur in the most varied diseases of the uterus and its adnexa. In the milder variety the superficial layers of the membranes are cast off by the occurrence of small hemorrhages in the superficial strata of the uterine mucous membranes. But a different process obtains in the pronounced variety. There a true interstitial endometritis occurs involving the glands. The author has seen it frequently follow a puerperium complicated by inflammatory conditions. In one-third of his cases, (twenty-seven) he could trace no etiological factor. Different from the experience of other observers, six of his patients bore children after the appearance of the membranous casts. He had seen only one case which could have been said to have undergone complete cure, and this result could not have been attributed to the local treatment employed. But scraping the uterus, and following it by intra-uterine injections, has been attended with a cessation of the affection for several months.

—*Atlanta Med. and Surg. Journal.*

THE USE OF ICHTHYOL IN GYNECOLOGY.

Hermann (abstract of thesis in *Centralblatt für Gynäkologie*, 1892, No. 50) reports the result of observations in 150 cases in which he tested the action of ichthyol, either pure or in watery solution, in order to eliminate the possible influence of glycerine upon the local disease. All other treatment (hydrotherapy, massage, etc.) was suspended. He finds that the drug has a distinct absorptive and analgesic influence in all varieties of pelvic inflammation, with or without exudation. He found it particularly valuable in all cases of carcinoma of the uterus, establishing a differential diagnosis between cancerous and inflammatory induration, the latter being speedily affected by its use. Pure ichthyol also proved to be valuable as an application to the eroded cervix, and ichthyol oint-

ment (50 per cent. in lanolin) in cases of fissured nipple.

EFFECTS OF MORPHINE ON THE FEMALE ORGANS.

Passower recently read a paper before the Obstetric Society of St. Petersburg, in which he relates the course of two cases under his own observation. It confirmed an opinion, already supported by the observation of others, that the abuse of morphine eventually leads to atrophy of the female organs. Passower's cases were of the ages of twenty-nine and thirty. One consulted him on account of the resultant amenorrhea. The drug was discontinued, and the catamenia reappeared. The patient took to morphine again, and straightway the menses ceased. Between 1887 and 1889 Passower observed the case; sixteen pounds' weight was lost, and the subcutaneous fat disappeared. The vulva atrophied. The measurements of the uterus during that period ran as follows: December 1887, 3 1-10 inches; May 1888, 2 9-10 inches; November 1888, 2 7-10 inches; April 1889, 2 3-5 inches; September, 1889, 2 3-10 inches, and July, 1890, 1 9-10 inches. The atrophic process no doubt began in the ovaries and spread to the other parts of the genital tract. This is evident from the early appearance of amenorrhea and the latter atrophy of the vulva, and also from physiological evidence; thus the submaxillary glands atrophy in dogs subjected to doses of morphine. How much of the drug can be taken without danger of these ill effects is entirely an individual question.

—*Archives of Gynecol. Obs. and Ped.*

DIGITAL PRESSURE IN HICCUGH.

Hiccough is sometimes a very troublesome symptom, and in many cases may be difficult to overcome. Leloir, in a case of a child twelve years old suffering from persistent hiccough, applied digital pressure for three minutes to the left phrenic, between the two attachments of the sterno-mastoid. The hiccough stopped and did not recur. He has since used the method in a large number of cases, and always with success. In some cases pressure for a few seconds has been sufficient, in other a few minutes.—*Maritime Med. News*

NEW REMEDIES IN DISEASES OF THE SKIN.

Europhen. In the strength of 10 per cent. it exerts an excellent influence upon chronic ulcers. In scrofulous ulcers a preparation containing 5 or even 1 per cent. is beneficial. In the latter strength it promotes cicatrization in deep burns. I have seen an ointment containing $\frac{1}{2}$ ounce of europhen to the ounce of fat relieve pain and promote cicatrization of ulcerated superficial epithelioma, the course of treatment lasting about four months. In another case the result was equally happy, by the use of a mixture of equal parts of europhen and aristol after each substance had been employed alone without producing much benefit. An ointment containing 10 per cent. of europhen is of service in the treatment of sycosis. One or two drachms of the same substance to the ounce of excipient is beneficial in papular acne. In the second stage of rosacea I have seen marked improvement follow the use of a lotion composed of europhen dissolved in cologne-water, to which some glycerin had been added. Facial erysipelas, dermatitis from rhus toxicodendron, alopecia circumscripta, chronic eczema of hands and feet, are other affections in which europhen ointment may be advantageously employed. I have, in most cases, made use of an ointment in the strength of 1 drachm of europhen to the ounce of excipient. In many instances europhen is preferably applied in the powder form. The powder may be successfully used in the treatment of chancroids, chancres, condylomata, syphilitic papules, ulcerated lupus, accidental or operation wounds, carbuncles (after expulsion of the necrosed tissue), herpes zoster, seborrhea oleosa, hyperidrosis, buboes, and ulcerated syphilitic lesions.

A mixture of equal parts of europhen and aristol is an admirable dressing, and, in certain cases, is more efficient than either substance used alone. The mixture is an impalpable powder, of a buff color, a faintly-aromatic odor, which is rather preferable to that of europhen. The mixture is especially excellent in the treatment of bromidrosis. The feet having been previously bathed in a slightly-stimulating bath containing mustard-flour, salt or alum, and dried by

briskly rubbing with a towel, the powder is dusted freely upon the surface and between the toes. During the day the powder is strewn in the stockings. Europhen-aristol powder is beneficial in fissured eczema and syphilitic ulcers. In acute vesicular eczema I have derived good results from a combination of europhen-powder and subnitrate of bismuth. An ointment of europhen-aristol proved beneficial in a case of psoriasis under my care.

Losophan. In old cases of eczema, attended with considerable thickening of the integument and distressing itching, losophan has proved of service. It stimulates the absorbent vessels to remove the infiltrate and at the same time it relieves the itching. The latter symptom is, in other diseases, also, allayed by the application of the same remedy. It may be employed, therefore, in cases of paresthesia, prurigo, urticaria, etc.

Losophan is of value in the squamous form of eczema, where the skin is red, dry, infiltrated and scaly. Fissured eczema, a rebellious and painful form of the disease, is benefited by the application of losophan. The congestion and thickening of the surface are gradually lessened and the cracks begin to heal. In the later period of sycosis, when the papules and pustules are numerous and may have coalesced into one mass, when the skin is swollen and thickened, losophan may be used with success. The subjective symptoms are ameliorated, inflammatory congestion subsides, and the infiltration is removed. The chronic forms of acne, especially the pustular and indurated, may be cured, in process of time, by the persevering use of losophan. The same remark is true of the second stage of rosacea. The irritant properties of losophan render it of avail in certain parasitic affections. It has, in some cases, proved curative in pediculosis and scabies, but has been more generally successful in the treatment of the various forms of tinea trichophytina, or ringworm. Losophan has been used in the form of a lotion or an ointment. Dr. Edmund Saalfeld, of Berlin, to whom we owe the first clinical investigations of this substance found, as a result of his experiments, that the most generally suitable lotion consists of a 1 per cent.

solution of Iosophan in 3 parts of alcohol with 1 part of water. As an ointment it may be employed in the strength of 1 to 3 per cent.

Thilatin. Thilatin is of service in many forms and stages of eczema. Its bland character permits it to be used with advantage in the eczema of young children, and in acute erythematous or vesicular eczema among adults. In the subacute and chronic varieties of eczema, it has likewise proved beneficial. It is more adapted to those cases of subacute form which persist after the subsidence of the acute stage, and to chronic cases following an acute attack. In either of these forms slight irritation from within or without, is sufficient to provoke a recurrence of the acute stage. In sycosis, when the inflammation is severe, the lip or nostrils hot, burning, swollen, and excessively painful, thilatin has been of marked service in alleviating the condition and relieving the symptoms. Herpes, especially of the genitals, is successfully treated by means of thilatin.

Thiosinamin. According to Hebra subcutaneous injection of thiosinamin causes a local reaction of lupus. This reaction begins some hours after the injection has been made and depends upon the quantity employed. The reaction is manifested by a swelling, which may be so extreme that the epidermis and even the papillary bodies burst, producing superficial fissures. The reaction continues for from four to six hours, after which it gradually subsides. At the end of about twenty-four hours the skin has regained its former aspect. Constitutional symptoms do not occur. In consequence of the operation a considerable desquamation of lupus tissue takes place, the surrounding healthy skin remaining clear and smooth. Hebra states that lupous nodules retrocede, the surface of lupous ulcers soon becomes clean, the elevated edges are leveled, and cicatrization is accomplished in the course of a few weeks. A further action of the remedy, we are told, is upon the cicatricial tissue, whether that has originated from spontaneous ulceration or had been produced by cauterization. The scar becomes soft, and the effects of contraction or pressure are removed. Thiosinamin is said to be without effect upon syphilitic lesions,

and it has, therefore, been surmised that it may be of assistance in the differential diagnosis between syphilitic and scrofulous and tuberculous disease of the lymphatic glands. What the permanent influence and position of this new remedy may be, can only be determined by repeated and prolonged study by different observers.

Thiol. The powder is used as an absorbent upon moist surfaces. It may be beneficially spread upon the surface in acute eczema, in cases where vesicles have ruptured and discharged their contents, or where, as sometimes happens, the epidermis has been rapidly exfoliated, leaving exposed a raw and exuding corium. After the bullæ have been opened or have spontaneously ruptured, thiol forms a good dressing in pemphigus. In the erythematous and bullous varieties of burns, thiol also constitutes a good dressing, relieving the heat of the surface in the former, and taking up the discharge in the latter form. Thiol-powder is a good local application in erysipelas, especially in those cases where vesicles or bullæ develop. This itching and burning of erythema multiforme are alleviated by sprinkling the surface with thiol-powder. A 10 per cent. watery solution of thiol painted twice daily upon the affected surface has been found very useful in herpes zoster by Professor Schwimmer. The same authority reports especially good results in dermatitis herpetiformis from the use of a 10 per cent. solution of thiol. The solution has likewise proved effective in the treatment of papular and pustular eczema, acne, and rosacea.

Thio-resorcin. This substance may also be used upon the surface of ulcers, chancroids, bed-sores, ulcerated lupus, scrofuloderma, and other open lesions.

Thiophen. When made into a 5 to 10 per cent. ointment, has no deleterious effect upon the skin, and has been found a beneficial application in prurigo.

Thiophendi-iodide has been employed to fulfill the same purposes as iodoform. It prevents the development of the microbes of suppuration. It has been employed with success in the treatment of wounds and burns. It should be a useful application to abscesses of the skin, furuncles, carbuncles, pustular acne, impetigo, ecthyma, erysipelas, etc.

Alumnol. Alumnol is an antiseptic, astringent, and, in concentrated form, a cauterant. Alumnol may be used as an aqueous solution, an ointment, or a plaster. It is an efficient application to ulcers. Leg-ulcers, bed-sores, chancres, chancroids, balanitis, herpes ann erosions of the genitals, open buboes, lupus ulcers, scrofuloderma, etc., are stimulated to repair by the action of this substance. Abscess-cavities may be effectively irrigated by means of a 10 to 20 per cent. solution of alumnol. In acute vesicular eczema and in papular eczema a 1 to 5 per cent. solution of alumnol renders good service. In acne and furunculosis the use of the same lotion is followed by amendment. In urticaria an alcoholic solution, varying in strength between 2 and 10 per cent., relieves the itching, tingling, smarting, and burning sensations characteristic of the disease. The same preparation relieves the pain and turgescence of sycosis, and has been found of benefit in psoriasis. An ointment made by incorporating alumnol with lanolin, in the strength of 2, 5, 10, and 20 per cent., is effective in eczema, seborrhea capitis, psoriasis, erysipelas and favus.

Tumenol. Tumenol has been employed with success in acute eczema accompanied by weeping, in burns of the first and second degrees, superficial or deep ulcerations, and in paresthesia.

Stearates. The compound stearate of zinc is recommended as a dusting-powder in intertrigo, hyperidrosis, and acute vesicular eczema. It is useful in alleviating pruritis, and also as a vehicle for many other drugs. The addition of boric acid renders this salt beneficial in bromidrosis, eczema and ulcers. Mixed in various proportions with salicylic acid it is useful in hyperidrosis, eczema rubrum, and chancroids. Tannic acid added to the compound stearate of zinc is a good application to bed-sores. A union with chrysarobin is a beneficial application in psoriasis; with tar it is advantageous in chronic eczema and psoriasis; with resorcin in parasitic skin diseases and syphilitic ulcers. The compound stearate of mercury is recommended for the relief of paresthesia and as a substitute for other mercurial combinations.

Sulphoricinated Salol has been employed either under its own form or diluted as an application to ulcers.

Piperazin. This recent and valuable acquisition to our resources is chiefly applicable to the treatment of gout and other manifestations of the uric-acid diathesis. Its relation to diseases of the skin lies in the fact that, internally administered, it mitigates paresthesia when that symptom, as often happens, is dependent upon hepatic incompetency.

Thymol. In the proportion of 10 grains to the ounce of fat, it is a good application in acne and alopecia circumscripta. It is also useful in eczema, psoriasis, and ringworm.

Trichloracetic Acid. It is freely soluble in water and is an efficacious caustic and astringent. It is slow in its action, but possesses the advantage that its effects can be more strictly limited than those of many of the other caustics now in use. Its eschar is noticeable for its dryness. Trichloracetic acid is a serviceable application to warts, vascular naevi, pigment patches, and indolent ulcers.

—Shoemaker, *Med. Bull.*

PURE CARBOLIC ACID IN THE TREATMENT OF PUERPERAL FEVER.

Dr. Reginald Pratt, Lond. in the *The Provincial Medical Journal*, Sept. 1, 1893 recommends the swabbing out of the uterus with pure undiluted carbolic acid in cases of puerperal fever. He cites a septic case due to decomposition of retained lochia in a multipara, also an infective one, probably from the nurse, in the first the application was made without anaesthetic with the happiest result. The second was put under chloroform and the temperature soon fell to 100.2 degrees and she made a good recovery.

If the case is thus treated early before peritonitis or periuterine inflammation sets in, the treatment though severe is efficient; but if the case has gone on to suppurative peritonitis the only treatment is abdominal section and douche out the cavity with a boric acid solution. However, in addition to this Dr. Pratt thinks he would recommend the carbolic acid swabbing.

BEE-VIRUS FOR ACUTE RHEUMATISM.

Mr. John Worthington, United States Consul at Malta, has sent us a clipping from the *Malta Standard* of April 11th, which states that the theory that the virus of the bee-sting is an infallible remedy for acute rheumatism has received most unquestionable confirmation from the practices of the country people in Malta. Bees are said to be plentiful on the island, and the virtue of the sting as a cure for rheumatism has been long established. It is, in fact, said to have been a common practice for generations past to resort to this remedy in all severe cases, the results being most favorable.

If the foregoing statement proves to be true, and the same virtue dwells in the virus of the sting of the surprisingly active bee of our country, will not some of our brethren who dwell in the rural districts give it a practical test and supply the cities with the article !

JAMES WOOD.

BISULPHATE of quinine is said to be used in some of the secret hernia cures. A solution (generally in the proportion of from four to seven grains to the dram of distilled water) is injected into the hernial sac and the parts thoroughly kneaded to bring the solution into contact with the entire surface of the sac. This treatment is also said to be successful in the treatment of hydrocele. The sac is evacuated of its fluid contents and injected with the quinine solution.—*Med. World.*

PALSUS BIJEMINUS AND DEATH FROM DIGITALIS.

Huchard found that digitalis in many persons leads to a perversion of the cardiac rhythm, which has received the name of pulsus bijeminus. Two revolutions of the heart follow each other rapidly : the first is usually the stronger and is easily felt in the pulse, while the second may be so weak as to be scarcely, if at all, indicated there. This peculiarity is also found in many arterial cardiac lesions from their tendency to produce cardiac dilation; but it is often overlooked, either because it is transitory or because it is mistaken for an irregularity. Each pair of beats is

separated by a more or less well marked interval, which prolongs the duration of the systole and thus increases the amount of blood which flows into the ventricles and distends their weakened walls. Then two systoles follow each other quickly in order to thoroughly empty the over-full ventricle. As digitalis increases the period of diastole, it favors the production of this abnormal rhythm, and in these cases must therefore be withheld, as it may lead to rapid, or even sudden death, with symptoms of cardiac dilatation and cyanosis.—G. G. Sears in *Boston and Med and Surg. Jour.*

REMOVAL OF OXYURIS VERMICULARIS.

In the *Correspondenz-Blatt fuer Schweizer Aerzte*, August 1st, 1893, p. 540, Dr. Etter, of Thurgau, warmly recommends the following simple and "sure means (*sicheres Mittel*)" for freeing patients from oxyuris vermicularis. Every evening, at bedtime, the patient is placed in a knee-and-elbow position, after which an assistant separates the anal folds as thoroughly as practicable, while the operator proceeds to catch discovered parasites, one by one, by means of a *pincette* or a hairpin, or any appropriate instrument. The "hunting" (which at the first sitting secures a more or less abundant booty," but subsequently becomes ever less "rich") should be diligently continued for several successive evenings, until no worms can be discovered. On the whole, a complete cure requires about three weeks' time.

—*Provincial Medical Journal.*

THE TREATMENT OF INFANTILE DIARRHEA AND SO-CALLED ENGLISH CHOLERA.

Since infantile diarrhea is unusually virulent in London and in other large towns, no less than 1126 deaths from diarrhea having occurred in the thirty-three largest towns in England during the week ending July 22nd last, and since it has shown a tendency to affect adults in the form of "cholera nostras," a brief account of its treatment may not be out of place in the columns of *The Lancet* at the present time. The disease is undoubtedly due to the development of a special short, rod-shaped bacillus in the

intestines, and the poisoning of the individual by the absorption of the ptomaines produced by its growth in the intestines. The stools in severe cases consist almost entirely of the organism in question, mixed with a little mucus and a few putrefactive bacteria and ameboid bodies; similiar to those found in dysentery, and which are in all probability altered white corpuscles. The bacilli are absent from the blood and tissues of the body; the renal epithelium is found swollen and degenerated, the nutrition of the lungs suffers, so that bronchopneumonia is almost always found post mortem. The last named changes are probably the result of the accumulation of ptomaines in the blood and the rapid withdrawal of water from the tissues. Clinically the disease is seen in three forms. (1) the mildest form is seen as a simple diarrhea, with offensive pulaceous yellow stools containing a large quantity of mucus; (2) in the commonest form early vomiting is marked, with extreme and rapid depression, the stools being greyish-yellow in color thin and slimy and very offensive, having an odor like rotten cheese and composed almost entirely of bacilli; (3) the most intense form is characterised by thin watery grey-brown fetid stools, the brown color being due to admixture with blood. The passage of membranous shreds, so common in Leicester, I have not observed in London. In all these forms that most powerful antiseptic the perchloride of mercury is the only drug to be relied upon. For the first two forms the best results will be found from subnitrate of bismuth, ten grains; liquor hydrargyri perchloridi, six minims; mucilage, one drachm, water, one drachm, to be given every two hours. For the form last mentioned accompanied by hemorrhage, dilute sulphuric acid (ten minims), liquid hydrargyri perchloridi (six minims), and syrup (one drachm), to be given every two hours, will be found most effectual. The doses should be doubled in the case of adults. This treatment should be commenced at once in all cases; if any dose is vomited soon after its administration it should be repeated in a few minutes. Pure water should be supplied from the first to quench the extreme thirst, to keep up the action

of the skin and kidneys and assist the elimination of the poison circulating in the blood. The patient should be at once wrapped in a blanket and hot-water bottles applied to keep the blood circulating on the surface as much as possible, and prevent the tendency to its accumulation in the internal organs. Absolute rest is essential from the first; the patient should not sit up, even for the purpose of vomiting. Alcohol is required from the beginning, and it is best given in the form of rectified spirit, of which two minims may be added to each dose of medicine for an infant. If one is unfortunately called to a case in which collapse and coma have set in, every means must be taken to restore the circulation by the application of external heat to the surface of the body: and the addition of water to the blood by injecting saline solution into the subcutaneous tissue of the body by means of an exploring syringe. The administration of water by the mouth cannot be relied upon, since vomiting is especially severe in this stage. Lastly, it must not be forgotten that the disease is very infectious; if a case is admitted into a children's hospital it almost always spreads in a virulent form and will attack adults, the dissemination probably taking place by the discharges drying upon linen and thus becoming volatilised into the atmosphere and contaminating all articles of food.—S. W. Wheaton, *Lancet*.

CELOBROM IN SEA-SICKNESS.

I used chlorobrom in all cases of seasickness to which I was called whilst ship's surgeon to the S.S. *Rimutaka* during a voyage to and from New Zealand, and I now desire to state my experience as to its action. I always gave it in three-drachm doses in the second stage of this distressing ailment, when retching, headache, depression and sleeplessness were the prominent symptoms, the hour selected for administration being 10 P. M. in order to secure a good night's rest. The results were very satisfactory. The chlorobrom was always retained and was always followed by sleep (generally sound.) The patients awoke much refreshed in the morning, with an appetite and able (except on one occasion) to eat and retain something light.—*Lancet*.

DEATH UNDER CHLOROFORM.

We have been favored with the following report by Dr. H. Tilly of a death from cardiac failure at the London Throat Hospital, Great Portland Street. On the afternoon of July 19th chloroform anesthesia was induced in order to remove the tonsils and postnasal adenoid growths. This was successfully accomplished; the slight hemorrhage had ceased, and the patient was beginning to recover consciousness, when fatal syncope ensued. The patient was a healthy-looking lad, eleven years of age, admitted under Mr. W. H. Stewart. He had had a good breakfast in the morning, but nothing since except from half to three-quarters of a pint of beef-tea about twelve o'clock. Previous to inhaling the chloroform the patient's pulse was good, and except for a little superficial eczema round the lips, nothing seemed amiss with him. He was not at all nervous. The anesthetic was administered on a modified Skinner's inhaler at 3.45 P.M. The patient took it well, struggling very little during the first stage, and when anesthesia was complete the pulse and respiration were good. No more chloroform was given. The operation was completed in about two minutes, the hemorrhage had practically ceased, the patient was placed in the semiprone position, and the medical men on the point of leaving him when he suddenly became pale, although it was noted at the time that respiration continued. The head was immediately lowered, the tongue drawn and held out with forceps, the legs raised, and artificial respiration commenced, air entering freely with inspiration and expiration. An ounce of brandy in warm water was injected into the rectum and retained, and ten minims of ether injected under the skin over the heart area. The electric battery to the heart area, amyl nitrite to the nostrils, flagellation of the face and chest with a wet towel, hot sponge over the heart were other means adopted from time to time to stimulate the circulation, but were of no avail, although persisted in for more than an hour and a-half. One reason for continuing these measures for so long was that the patient's color seemed to give hope that the circulation had not entirely failed. Nothing was clearer in the case than the fact that res-

piration continued after the heart failed, how long it is almost impossible to say, as the movements of artificial respiration, which were never relaxed from the commencement of bad symptoms, obscured the natural respiratory movements; however, as nearly as one can guess, about two minutes after the commencement of artificial respiration the patient inspired naturally, whilst an effort was made to keep accurate time with these natural movements, unfortunately without any good permanent result. At the *post-mortem* examination the heart was found empty and perfectly healthy. The lungs were congested—a fact probably explained by the long-continued artificial respiration. There was no obstruction in the larynx, trachea, or main bronchial tubes. All the other organs were healthy.

—*British Med. Journal.*

HIGH FREQUENCY CURRENTS AND
"HARMLESSNESS."

The high frequency *furore* has invaded the field of physiology and even that of electro-therapeutics. It is possible and probable that on subsidence it may leave behind it results of solid and lasting value. It is conceivable even that our present electrical methods are on the eve of revolution and that currents of high frequency and potential may eventually displace the three conventional forms of current ordinarily used in medicine. In the meantime the physician must keep an open mind—a "level head." His attitude must be that of inquiry, tempered perhaps by a wholesome tinge of scepticism. He must try to make good his way as he goes and decline to be hurried along in an excited rush over ground that is at best but very insecure. He must often pause to steady his mind and question himself as to the "what" and "how" and "why. The "what" is briefly this: It is well known that certain currents of high frequency (500,000 to 1,000,000 or more alternations a second), strong enough to light lamps which with ordinary frequency require currents that are dangerous to life, may be passed through the human body without producing any very appreciable effect in the way of sensation or neuro-muscular phenomena in the shape of contraction. M. d'Arsonval, who

more than anyone else has experimented in this direction, states further : (1) that tissues traversed by such currents become rapidly less excitable and that an analgesia lasting from one to twenty minutes is produced at the point of penetration ; (2) that the vaso-motor system is strongly influenced, as is shown by the fall in blood pressure registered by the manometer in the carotid of a dog or by the Marey sphygmograph in man ; (3) that on the continued application of these currents the skin becomes vascular and perspiration follows ; (4) that animals submitted to the action of such currents show an increase in the respiratory combustions, as seen by examining definite quantities of blood by the usual physiological methods ; (5) that they have an influence on certain micro-organisms as shown by their action on the pyocyanic bacillus (decoloration of blue pus) ; (6) that the body may be submitted to the action of such currents either by passing them directly through the tissues or placing the tissues or the whole body in the interior of a solenoid (without contact with it). This latter method he calls "auto-conduction."

In connection with these observations he mentions two hypotheses : (1) that the current on account of its enormous frequency passes by the surface of the body as such currents are known to do with other conductors, and (2) that the sensitive and motor nerves are so organised as to respond only to vibrations of a definite frequency, in the same way that the terminations of the optic nerve are "blind" for undulations of the ether of a period less than 497 billions per second (red) or more than 728 billions per second (violet). He rejects the surface theory so far as the animal body is concerned, and though he passed currents of 3000 milli-amperes he explains their harmlessness by "absence" of excitation, or rather on the hypothesis that these currents exercise on nervous centres and muscles an inhibitory action of the kind studied by Dr. Brown-Séquard, and he considers that this inhibitory action is shown by some of the phenomena above described.

In this country the harmlessness of such currents is generally explained by the fact that there is virtually no current

strength (amperage). In *The Lancet* of December 24th, 1892. I detailed some experiments with comparatively low frequency currents which seemed to point in this direction. In the *Electrical Review* it was pointed out that in all high frequency experiments the current strength is probably very small owing to its being "whittled down" by the various transformations to which it had been subjected. In the *Philosophical Magazine* of February, 1893, Mr. Campbell Swinton offered an explanation of the lamp experiment which is now well known, which has been freely reproduced both in the medical and lay press, and which is now, I think, the explanation most generally accepted.

Attempts to form an opinion on such points may be assisted by reasoning of the following kind: Since efficiency varies with the square of the frequency, and since currents of high frequency must have high voltage for conducting the current, it follows that to obtain an exceedingly small current of high pressure and high frequency great power is required to produce it. Supposing that a current whose initial energy is as large as two amperes at 200 volts—i. e., about half an electrical horse-power—is transformed up to 100,000 volts, the resulting current strength (ampère) cannot be more than 0.004 ampère (4 milliampères). Now if instead of arguing from the initial energy one begins at the other end and takes the amount of work done at the terminals as the basis of reasoning, it occurs to me that a better and more definite point of departure is obtained. What is the actual work done by a current of this kind as it escapes from further manipulation at the terminals of the high frequency coil? I place a five candle lamp, which on ordinary circuit glows bright-red with 250 milliampères at ten volts, between the terminals of the apparatus and find that here also it is brought to the same degree of redness. I then substitute my body for the lamp by holding in my hand two copper cylinders. On turning on the current no muscular contraction or sensation beyond a slight warming effect under the electrodes is perceived. After breaking circuit there is perhaps a slight deadening of the or-

dinary cutaneous sensibility over the same area.

Using a half-crown as an electrode on the forearm, there are no effects beyond the above; using a shilling in the same way, there is a slight pricking effect; with a sixpenny piece this becomes more marked and with a threepenny piece painful. I am, therefore, in possession of two facts. In the first place I have applied to my body, through the area of a threepenny piece, a current which would bring to a red glow a lamp requiring with a low potential current circuit 250 milliamperes and 10 volts (2.5 Watts). Was I, therefore, passing such a current through my body? Taking my body out of circuit, I approximate the terminals until within sparking distance of each other. This distance measures one centimetre. Turning to De La Rue and Muller's sparking table I find that such a spark-gap requires a pressure of 9000 volts to overcome it. But the total energy required to glow the lamp is 2.5 Watts; therefore the current strength will fall short of 3 milliamperes. If an experimenter, therefore, states that by such an apparatus he has passed 3 amperes (3000 milliamperes) through a man's body, may I, assuming that his spark-gap was not less than 1 centimetre, representing 9000 volts, conclude that he considers he has passed through the living body a total energy of 27,000 Watts or 36 electrical horse power? The second point which this experiment shows me is that painlessness must depend largely on concentration of current (density). It is absent when spread over the area of a half-crown and present when concentrated through a threepenny piece; mererapidity of alternation will not therefore *per se* make a current painless. Rapidity will transform and minimise, current strength (amperage) but when such current strength is concentrated through a sufficiently small electrode (represented in an extreme form by a spark?) it becomes painful. Apart, however, from the physics of the current itself there is that of the conductor—i. e., the body—also to consider—firstly, that ever-varying quantity, resistance, mainly determined, as is known, by the condition of the skin and changing as the skin happens to be dry or damp. The above

considerations, looked at collectively, seem to me to point to the probability: (1) that currents of high frequency and potential owe their "harmlessness" mainly to their small current strength, but that the resistance of the body certainly, and the independent conductivity of its surface fluid possibly, as well as other conditions, may play an important part in explaining the occasional harmlessness of currents of ordinary frequency and admittedly large current strength; (2) that sensation and muscular contraction are influenced by the frequency of the alternation, the extent of changes of potential, and the suddenness (brusqueness) with which that change is made—i. e., by the shape of the electrical curve of which these three are factors—three factors whose effective action is determined also by the degree of current strength and its concentration on a given area.—W. S. Hedley, *Lancet*.

RELATIONS OF DYSPEPSIA TO PULMONARY TUBERCULOSIS.

At the recent French Congress for the Study of Tuberculosis recently held in Paris, one of the subjects discussed was that of the relationship of dyspepsia to pulmonary tuberculosis.

Marfan has maintained in his thesis that the digestive disturbances of the phthisical bear the relation not of cause but of effect; in other words, they are but one of the manifestations of tuberculosis. Often the dyspepsia masks the tuberculosis. Marfan believes the initial dyspepsia to be caused by a "humoral state."

According to Hayem, whose paper attracted much notice, the gastritis of the phthisical is a common gastritis due to the ordinary causes of stomach inflammations. It is generally accompanied with retardation in the evacuation of the stomach and consequently with dilatation. It sometimes precedes for several years the appearance of the tuberculosis, and is only exaggerated at the onset of the phthisis in patients who take excitant drugs or who adopt a regimen not adapted to the state of their stomachs.

The causes of the gastric affections of the phthisical are those of ordinary gastric affections, to wit, the abuse of tobacco and alcohol, errors in diet, etc.

It is a mixed gastritis, parenchymatous and interstitial.

In one case, Hayem found, at the autopsy, a general amyloid condition of the entire mucosa; in another, a necrosis due to a thrombosis, exceptionally, he has met with a tuberculous ulcer.

A gastropathy of uncertain source begins early in life; it entails a state of general debility, and at a certain moment pulmonary tuberculosis bursts forth. The physician then institutes an active treatment based on super-alimentation and the abuse of medicaments.

Under the influence of this particular regimen continued for months, there supervene the symptoms of violent gastric catarrh, in other words, the "initial gastric syndrome" of Marfan. It is simply the exaggeration of a gastropathy which had existed for many years, sometimes fifteen or twenty years before the appearance of the pulmonary accidents. Under a suitable dietary regimen and the suppression of medicines these gastric symptoms vanish.

When the attending physician discards the administration of irritant medicines and prescribes nourishing, easily-digested foods, he will even in febrile cases see the condition of the stomach improve.

Tuberculosis at the onset, then, does not make the state of the digestive organs evidently worse. On the contrary, there are few diseases which so rarely affect the stomach. One is often astonished at the digestive capacity of the phthisical, who will eat more nutritious food than a well man.

In concluding, Hayem said that with the exception of rare lesions, ulcerations, amyloid degenerations, etc., the gastritis of the phthisical is of the common kind.

It is sometimes latent, and is not diagnosed before the appearance of the tuberculosis. It should, nevertheless, be a subject of preoccupation by the medical attendant, for this gastritis may end in grave gastropathies and open the door to pulmonary tuberculosis. In hospital patients it would seem that chronic alcoholism is a frequent cause of gastritis.

One of the best means of warding off pulmonary tuberculosis in the predisposed consists in treating the gastropathy.

The proper medication addressed to

the digestive tube may perhaps in some subjects arrest tuberculosis at the onset.

—*Boston Med. and Surg. Journal.*

Aug, 31st.

Prescriptions.

TREATMENT OF LEUCORRHEA.

Injections:

R Cupri sulfatis 1 gram
Aque, 200 grams
M. S. Use as an injection.

R Acid. salicyl. 6 grams
Glycerini 100 "
Aque, 1000 "

Dissolve the salicylic acid in the glycerine by heating of water-bath, then add the water.

M. S. Use as an injection.

R Potass. chloratis, 18 grams
Vini opii, 10 "
Aque picis, 200 "

M. S. In a quarter of a liter of hot water pour two or three large spoonfuls of this solution for injection in fetid leucorrhœa.

R Cachou pulv. 5 grams
Myrrh. pulv. 5 "
Aque calcis, 200 "

Filter after a long trituration.

S.—Use many times a day as an astringent injection.

—*Annales de Medecine, No. 35.*

TONIC MIXTURES.

R Fl. ext. erythrox cocae, ʒi
Tinct. gentianæ comp, ʒss
Elixir simplicis, qs. ad ʒiv
M. S.—Teaspoonful three times a day.

—*F. S. Parsons.*

R Ferri et ammonii citratis
Ammonii chloridi, aa gr. xxxij
Syrupi
Aque anisi, aa ʒii

M. S.—A teaspoonful three times a day.

—*J. Lewis Smith.*

CATARRH CURE.

A very effective application for catarrh of the nasal passages is the following.

Iodoform, 10 grs
Carbolic acid, 15 grs
Petrolatum, 1 oz

Mix. Apply to the inside of the nostrils at night on retiring.

—*Maritime Med. News.*

R Sp. chloroformi 3v
 Acidi hydrochlor. dil 3ii ss
 Infusion. cinchonae 3xv
 M. S.—Two tablespoonfuls three times daily.
 —Fothergill.

PERSPIRING HANDS.

The following formula is given in the *Pharmacologisches Centralblatt*, No. 2, 1893, for the treatment of perspiring hands:

R Acidi borici gr. 75
 Boracis acidi salicylici . . aa gr. 225
 Alcohol rectificati f. 3 iss

M. S. The hands to be rubbed thoroughly thrice daily with the application,

News.

OBITUARY.

W. M. GRAILY HEWITT, M. D., F. R. C. P.,
 LOND., F.R.S., EDIN.

The death of Dr. W. M. Grailly Hewitt which occurred on August 27th in London is announced.

Prof. Hewitt's reputation in the obstetric world was widespread. His contributions to the literature of gynecology were numerous, the principal work being upon "The Pathology, Diagnosis and Treatment of the Diseases of Women," and reached its fourth edition.

Dr. Hewitt's death was due to renal disease. He was sixty-five years of age.

PROSECUTED ON ACCOUNT OF A POSTAL CARD.

Dr. James E. Reeves, formerly of Wheeling, now of Chattanooga has been sued for damages on account of the following postal card, written to Dr. Mettner of Cincinnati:

CHATTANOOGA, Aug. 14, 1893.

My Dear Doctor:

I have seen your name in Amick's pamphlet. Please give me the outcome of your experience with the so-called chemical treatment for consumption. The enterprising managers have within the last month made Chattanooga a sort of head-center for sending out in the secular press wonderful cures which are

pure fabrications. Not a particle of proof can be furnished that a case of tubercular consumption has been cured, or benefited by the so-called treatment. Has Cincinnati sold out and moved to Chattanooga? Verily, it seems so. Speak your mind fully to me.

Sincerely yours,

JAMES E. REEVES.

Dr. Reeves is full of fight, and says he will expose the whole thing in court next October with great pleasure.

MICROBES ON POSTCARDS.

The latest scare in microbes has been started by Professor Uffelman, of Rostock, who infected a letter with cholera bacilli and put it into a post-bag. When the letter was taken out, 23½ hours later, the bacilla were still alive. Bacilli were also found living on postcards 20 hours after infection. The micro-organisms were found to die rapidly when placed upon coins. A fly charged with cholera bacilla was afterwards placed on some beef. A little later the meat was found to be swarming with bacteria. A finger was infected with cholera bacilla and dried. One hour later the finger was rubbed on some roast meat, and numerous bacilli developed subsequently. The moral of all these experiments is obvious.—*The Medical Press*.

ACTIONS AGAINST DRUGGISTS.

Two infants have recently died in Brooklyn from the effects of medicines illegally prescribed by druggists, and proceedings have been instituted against the latter. An action for \$10,000 damages has also been brought against one of these druggists in another case. The plaintiff alleges that his five-year-old daughter, having broken her arm, was taken to the defendant's drug-store, and that a liniment was prescribed under the idea that the injury was merely a sprain. For ten days or more this was used, but the arm finally became so swollen that the child was taken to the Brooklyn City Hospital, where it was ascertained that a fracture had occurred. By this time the bones had united in such a way as to cause a marked deformity, and it became necessary to fracture them over again and reset the fragments.

—*Boston Med. and Surg. Journal*.

ASPECTS OF AMERICAN PHARMACY.

It is the opinion of some of those best capable of judging in America, that less than 5 per cent. of those entering the of those entering the drug trade in the United States could pass the English preliminary examination, and probably not 1 per cent. could attempt the Latin paper. It has been even questioned if one in a dozen of the members of the boards of pharmacy could write an English prescription in full Latin. It may be asked why, if that is so, American pharmacists do such good work. Their pharmacopeia touches the high water mark: how can that be? The answer really shows the possibilities of American pharmacy. The workers in research, the men who compile pharmacopeias, are the pick of the thoroughly educated class, some of them naturalized citizens whose early training was obtained in Europe. American pharmacy would be bad indeed if from its 30,000 followers a score or two fit men could not be picked for the best work. But the conditions are altogether opposed to the growth of this class, and unless educational and examination reforms are introduced for the improvement of the trade, the United States pharmacopeia will become an expression of the opinions of teachers or professors and of chemists to manufacturing houses. That is a consummation not desirable from any point of view."

—*Jour. of the Am. Assoc.*

MEDICAL PRACTICE IN COLORADO.

Hereafter the Colorado State Board of Medical Examiners will recognize only diplomas from three year schools as entitling their holders to license. The courses of lectures must have been of at least twenty weeks each, and given in three separate years, and a preliminary examination must have been required.

Instructions must have been given in anatomy, chemistry, physiology, pathology, materia medica and therapeutics, obstetrics and gynecology, surgery, medical jurisprudence, theory and practice of medicine and hygiene.

In default of such a diploma the candidate for license must pass an examination in anatomy, chemistry, physiology, pathology, surgery, obstetrics and gynecology, and theory and practice of medicine.

—J. N. Hall, M. D., in *Med. World*.

SHOULD DOCTORS CHARGE DENTISTS?

The above question is going the rounds of the papers. It seems to be fair that dentists should be remunerated for out-of-pocket expenses, such as gold-filling; and *vice versa*, that dentists should pay medical men expenses incurred for drugs or surgical instruments, supposing these to be supplied. An arrangement is sometimes made between doctor and dentist for mutual attendance at half fees.

—*The Med. Press*.

Physician (with ear to patient's chest) "There is a curious swelling over the region of the heart, sir, which must be reduced at once."

Patient (anxiously). "That swelling is my pocket-book, doctor. Please don't reduce it too much."

—*Our Dumb Animals*.

NEW HOSPITAL.—The trustees of St. Barnabas hospital, Minneapolis, contemplate the erection of a new brick hospital building upon the site of their present frame building. The new building will cost about \$25,000.

PROFESSOR VON BERGMANN has been elected Dean of the Medical Faculty of the University of Berlin for the coming year.

THOMPSON'S MALTED BEEF.

A perfect Liquid Food and Nutritive Tonic, made by a combination of a Superior Malt Extract with a Pure Peptonized Extract of Beef. Unsurpassed in cases of Mal-Nutrition, Dyspepsia, Wasting and Debilitating Diseases or Convulsions. Both preparations are endorsed by Physicians.

THOMPSON'S MALTED HOP TONIC.

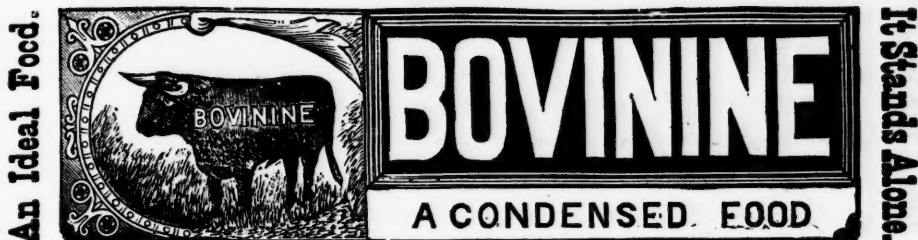
A PURE Extract of Malt and Hops. Superior to the imported. It is a PERFECT TONIC.

O. F. THOMPSON, Sole Propr. and Mfr., 146 and 148 S. Water Street, Philadelphia.

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THE ORIGINAL RAW FOOD EXTRACT.

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Treatment

... OF ...



Cholera.

DR. CHARLES GATCHELL, of Chicago, in his "*Treatment of Cholera*," says: "As it is known that the cholera microbe does not flourish in acid solutions, it would be well to slightly acidulate the drinking water. This may be done by adding to each glass of water half a teaspoonful of HORSFORD'S ACID PHOSPHATE. This will not only render the water of an acid reaction, but also render boiled water more agreeable to the taste. It may be sweetened if desired. The ACID PHOSPHATE, taken as recommended, will also tend to invigorate the system and correct debility, thus giving increased power of resistance to disease. It is the acid of the system, a product of the gastric functions, and hence, will not create that disturbance liable to follow the use of mineral acids."



Send for descriptive circular. Physicians who wish to test it will be furnished, upon application, with a sample by mail, or a full sized bottle without expense, except express charges. Prepared under the direction of Prof. E. N. Horsford,

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